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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,153	04/05/2004	Takashi Akase	Q80941	1197
23373	7590	10/19/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			UHLENHAKE, JASON S	
			ART UNIT	PAPER NUMBER
			2853	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/817,153	<b>Applicant(s)</b> AKASE, TAKASHI	
	<b>Examiner</b> Jason Uhlenhake	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahne et al (U.S. Pat. 6,637,853) in view of Murakami (U.S. Pat. 6,082,911)

#### ***Ahne discloses:***

- ***regarding claims 1, 4, 12***, printing method for printing by forming dots on a medium using a movable print head (Column 3, Lines 39 – 50)
- step of moving said print head by a first set amount from a reference position used when printing and printing a first reference pattern on said medium (Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)
- step of detecting a position of an edge of said medium on the reference position side in the direction of movement of said print head (Column 6, Lines 10 – 23)

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- step of moving said print head to a position that is apart by a second set amount from said position of the edge that has been detected and printing a second reference pattern (Column 4, Lines 22 – 41)

- **regarding claim 3**, print head prints target information on the medium by forming dots by ejecting or sublimating ink

- **regarding claim 6**, one or more line segments, among the lines configuring the plurality of line segments, is printed in a single movement of the print head (Column 4, Lines 13-32)

- **regarding claim 7**, an edge of the medium is detected by an optical sensor; and said print head prints said second reference line using the edge of the medium that has been detected by said optical sensor as a reference (Column 6, Lines 11 – 30; Column 4, Lines 22 – 41)

- **regarding claim 8**, a computer readable medium (Column 2, Lines 65 – 67; Column 3, Lines 1 – 30), comprising the following codes:

- code for moving a movable print head by a first set amount from a reference position used when printing and printing a first reference pattern on the medium (Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)

- code for detecting a position of an edge of the medium on said reference position side in the direction of movement of said print head (Column 6, Lines 10 – 23)

- code for moving said print head to a position that is apart by a second set amount from said position of the edge that has been detected and printing a second reference pattern (Column 4, Lines 22 – 41)

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- **regarding claim 9**, printing apparatus comprising: a movable print head for performing printing by forming dots on a medium (Column 3, Lines 39 – 50)
  - sensor for detecting an edge of the medium (Column 6, Lines 10 – 23)
  - controller for controlling operation of said print head and said sensor (Column 3, Lines 52 – 59)
  - controller causes: print head to move by a first set amount from a reference position used when printing and print a first reference pattern on the medium (Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)
  - said sensor to detect a position of an edge of the medium on said reference position side in the direction of movement of said print head (Column 6, Lines 10 – 23)
  - said print head to move to a position that is apart by a second set amount from said position of the edge that has been detected and print a second reference pattern (Column 4, Lines 22 – 41)
- **regarding claim 10**, printing system comprising: a printing apparatus and a computer that is capable of communicating with said printing apparatus (Column 2, Lines 65 – 67; Column 3, Lines 1 – 30)
  - printing apparatus includes: a movable print head for performing printing by forming dots on a medium (Column 3, Lines 39 – 50)
  - a sensor for detecting an edge of the medium (Column 6, Lines 10 – 23)
  - a controller for controlling operation of said print head and said sensor (Column 3, Lines 52 – 59)

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- controller causes: print head to move by a first set amount from a reference position used when printing and print a first reference pattern on the medium (Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)

- said sensor to detect a position of an edge of the medium on said reference position side in the direction of movement of said print head (Column 6, Lines 10 – 23)

- said print head to move to a position that is apart by a second set amount from said position of the edge that has been detected and print a second reference (Column 4, Lines 22 – 41)

- **regarding claim 11**, a pattern for correction, which is used with a printing apparatus for printing by forming dots on a medium using a movable print head and which is for setting a print start position of said print head (Column 3, Lines 39 – 50)

- a first reference pattern that is printed by said print head after said print head has been moved by a first set amount from a reference position used when printing (Column 3, Lines 5 – 15; Column 4, Lines 13 – 20)

- a second reference pattern that is printed by said print head after said print head has been moved to a position that is apart by a second set amount from a position of an edge of the medium on said reference position side in the direction of movement of said print head (Column 6, Lines 11 – 30; Column 4, Lines 22 – 41)

***Ahne et al does not disclose expressly the following:***

- **regarding claims 1, 4, 8-12**, wherein either one of the first reference pattern or the second reference pattern is printed while suitably changing either one of the first set amount or second set amount

- **regarding claim 3**, a print start position of the print head is corrected in accordance with a correction amount that is determined according to a relationship between the first reference pattern and the second reference pattern

- **regarding claim 5**, print start position is corrected in accordance with a set amount of a line segment, among the plurality of line segment, that is closest to the other reference pattern

***Murakami discloses:***

- **regarding claims 1, 4, 8-12**, wherein either one of the first reference pattern or the second reference pattern is printed while suitably changing either one of the first set amount or second set amount (Figures 1, 8; Column 19, Lines 21-68), for the purpose of judging a propriety of a printing position

- **regarding claim 3**, a print start position of the print head is corrected in accordance with a correction amount that is determined according to a relationship between the first reference pattern and the second reference pattern (Abstract; Column 20, Lines 7-21), for the purpose of judging a propriety of a printing position

- **regarding claim 5**, print start position is corrected in accordance with a set amount of a line segment, among the plurality of line segment, that is closest to the other reference pattern (Abstract; Column 20, Lines 7-21; 34-43), for the purpose of judging a propriety of a printing position

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At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Murakami into the device of Ahne, for the purpose of judging propriety of a printing position

***Response to Arguments***

Applicant's arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection. Please see the above rejections regarding Ahne et al (U.S. Pat. 6,637,853) in view of Murakami (U.S. Pat. 6,082,911).



**Conclusion**

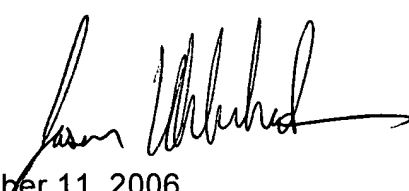
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSU

October 11, 2006



**STEPHEN MEIER**  
**SUPERVISORY PATENT EXAMINER**